NOTES ON FIELD IDENTIFICATION AND COMPARATIVE BEHAVIOR OF SHRIKES IN WINTER

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For the second year in succession bird observers in Ohio and Michigan have reported numerous Northern or Gray Shrikes *(Lanius excubitor)*. In Michigan most winter shrikes are doubtless of that species, but the Loggerhead Shrike (*Lanius ludovicianus*) has been collected in late fall and winter in Monroe, Wayne, and Lapeer counties in the southern one-third of the state. Although unquestionably authentic winter records of Loggerheads have been published (Van Tyne, 1940:35 and Wood, 1951:359), some Michigan observers continue to assume that any shrike seen in that state in winter "has to be" a Gray Shrike.

Dr. Milton B. Trautman informs me that Ohioans in contact with nature clubs have learned that the Loggerhead is supposed to be the only shrike wintering in Ohio, except, possibly, along the Lake Erie shore, and that these observers have automatically considered most wintering shrikes to be of that species prior to the recent Gray Shrike invasions. In the Ohio State Museum and the University of Michigan Museum of Zoology there are 14 late fall and winter shrike specimens from Ohio: seven of these are Loggerheads, seven are Gray Shrikes. Both species have been collected as far south as Perry and Franklin counties in central Ohio.

Obviously, identifications of winter shrikes in this region based on seasonal or geographic probability are valueless.

Field Identification

Field identification is often difficult—particularly for persons who are not familiar with both species in life. Misleading, incomplete accounts in the popular bird guides make the problem appear simpler than it is.

Immature Gray Shrikes are washed with shades of brown and are so heavily barred that their identification is easy. The Loggerhead, except for juveniles in summer, is always a gray bird. Unless otherwise stated, the following remarks refer to adults.

Breast vermiculations.—These may be present on both species. Those of the Gray Shrike are narrow and sharply defined, while those of the Loggerhead are wider and less distinct (see Figure 1). Very heavily marked Gray Shrikes can be safely identified on the basis of vermiculations alone if the observer knows the limits of variation in these markings. In the field, however, many adult Gray Shrikes, particularly as their plumage becomes soiled or worn, do not show striking vermiculations. Some even appear clear-breasted. I have found that vermiculations clearly evident through a 20X

telescope were frequently invisible through coated 8X and 12X binoculars. The bars on some fall and winter female Loggerheads are remarkably distinct and may be easily seen.

Bill color.—This character is of less diagnostic value than is indicated in most bird guides, for both species may have the base of the bill light-colored in fall and early winter. The pale area is more restricted on the Logger-

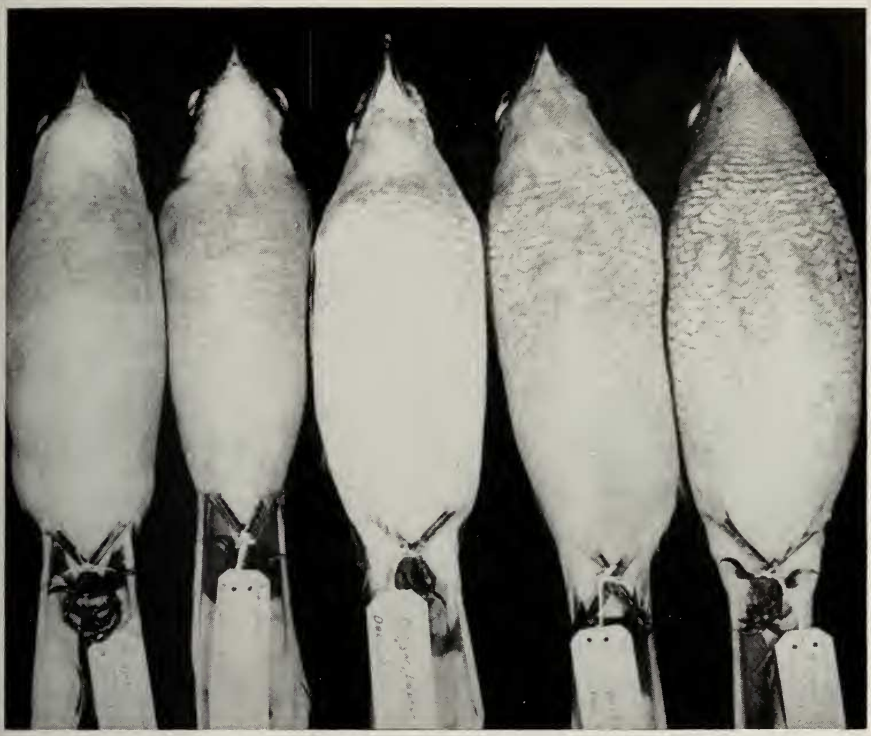

Fig. 1. Left to right: 2 female Loggerhead Shrikes; adult male Gray, adult female Gray, and immature male Gray Shrikes showing variation in extent and types of vermiculations.

head's bill, but is visible at distances of 40 to 50 feet in dull light through 7X binoculars. It is confined to the basal part of the lower mandible. In the Gray Shrike the basal quarter or one-third of one or both mandibles is light-colored—but only in fall and early winter. The bill becomes *entirely* black toward spring—sometimes as early as mid-March.

Facial feathering.—The nasal tufts and narrow strip of feathers at the base of the upper mandible are black in most Loggerheads, though in five of 18 female specimens of *L. ludovicianus migrans* examined, the latter region is gray like the rest of the forehead. In the Gray Shrike these feathers are

never dark and are nearly always noticeably *white or whitish, contrasting with the darker gray of the forehead and crown.* They are most conspicuous in a full-face view of the bird. ("Squeaking" will often hold the bird's attention long enough for the markings to be seen.) I examined one Loggerhead Shrike that showed whitish feathers at the base of the culmen, but the nasal tufts of that bird were black.

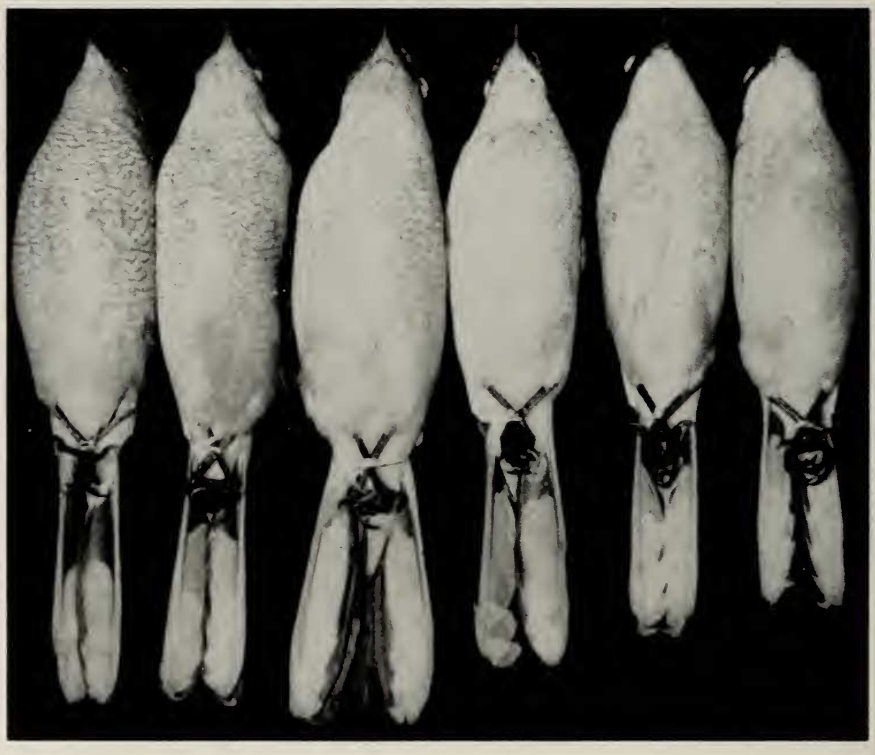

FIG. 2. Six winter shrike specimens showing size differences. Some allowance must be made for differences in make-up of skins, but specimens 1, 4, and 5 (counting from the left) were prepared by the author. Left to right: immature male Gray, adult female Gray, adult male Gray, adult male Gray, male Loggerhead, female Loggerhead.

The mask of the Loggerhead is wide, the anterior portion of its upper margin reaching, in most birds, from the top of the eye to the base of the culmen. Thus the lores and nasal tufts are entirely or largely black. In the Gray Shrike the loral portion of the mask is narrower, its upper margin extending downward from the top of the eye to below the middle of the upper mandible. (Some female Loggerheads have similarly restricted masks but do not show the whitish nasal tufts mentioned above.) Few Michigan Gray Shrike speci-

mens, and those only adult males, show well-defined, complete black masks. Some males (probably second-year birds) have the black of the lores flecked with gray which destroys the continuous pattern of the mask. Still other males (including brown first-year birds) and all females have almost no black in the lores, this color being confined to the postocular portion of the mask (except in the very brown first-year females, in which *all* black is replaced by brown). This "broken" mask effect is a useful field mark. A shrike with much white or gray in the lores and with *conspicuous* light feathers at the base of the upper mandible is certainly a Gray.

At close range another helpful mark, absent in the Loggerhead, is the small white spot below the eye of many Gray Shrikes (better developed in females than in males). Sometimes this spot is joined with the gray of the lores (see Fig. 4).

Discussion of Field Characters and Characteristics

As indicated above an early winter shrike with breast vermiculations and pale-based bill, or a spring bird with apparently clear breast and totally black bill might represent either species. Furthermore, anyone who has studied a shrike perched in the distance or on an overhead wire, knows that it is difficult to be certain of the lower forehead coloration. Fortunately, there are a few additional points, which, while differences in degree only, are useful if used in conjunction with some of the characteristics already discussed. It must be emphasized, however, that a positive identification could not be based on their use alone.

The Gray Shrike is a larger, longer bird than the Loggerhead (Fig. 2), but there is considerable individual variation. Its dorsal plumage is more silvery-gray, contrasting more with the black mask and less with the white scapulars than in the darker-backed Loggerhead. *Some* Grays have very white rumps, whereas *most* Loggerheads in this region have rather dark gray rumps. More important, *the Gray Shrike's bill is longer, heavier, and more strongly hooked than the Loggerhead's, and its head appears longer and larger, in proportion to body size* (Fig. 3). These head and bill differences are very impressive to observers who are familiar with both species. The Loggerhead's stubby bill is a relatively inconspicuous part of the bird. That of the Gray Shrike is noticeable at great distances, even in flying birds.

Voice.—In my experience Gray Shrikes are far more vociferous than Loggerheads. They frequently indulge in chattering, squeaking, mimicry, and even prolonged thrasher-like singing. True singing, while sometimes heard in October and November, seems to become more frequent after mid-January. We need detailed information on the vocal habits of both species.

Behavior.—My field experience with winter shrikes in the northern states

has been largely confined to *Lanius excubitor*. Dr. Milton B. Trautman, who has had considerable experience with wintering Loggerheads in Ohio, has generously placed at my disposal important information from his observations on shrikes in that state. In the following account I make frequent reference to his recent letters to me (February 18 and 23, and March 13, 1955).

Several observers have noted that the Gray Shrike's flight often seems more slow and deliberate than that of the Loggerhead. This difference may be more apparent than real, however, for Bent (1950:120) called the Gray

Fig. 3. Adult male Gray (right) and Loggerhead Shrikes (specimens 4 and 5 of Fig. 2), showing differences in width of mask and size of bill. (The bill color is considerably darker than that in living birds.

Shrike a "fairly swift flier," and mentioned Rathbun's (1934:24) account of clocking with an automobile a bird (of the northwestern race, *L. excubitor invictus*) at 32 to 42 and (briefly) 45 miles per hour on a windless day.

The Loggerhead seldom perches more than 25 feet above the ground, whereas the Gray Shrike usually chooses a tall tree-top or high wire for a hunting perch—frequently flying directly from one perch to another without dropping near the ground as the Loggerhead ordinarily does. The high, undulating type of flight is common to both species, but when Miller (1931: 222) states that it "is performed higher above the ground, often as high as twenty feet . . . " he undoubtedly refers only to *L. ludovicianus*. The Gray Shrike

frequently bounds through the air at tree-top level, and sometimes 75 to 100 feet above ground.

Miller (*op. cit.*:211) also writes that hovering "frequently is observed" in Loggerhead Shrikes. I have noticed it far more often in the Gray, and there is frequent mention of it in the literature pertaining to that species. Trautman writes that this bird "habitually stops and flutters in a stationary position in mid air, as does the Sparrow Hawk *(Falco sparverius)*." He adds that he clocked one for over two minutes, and that he has never noticed hovering "to be of more than momentary duration in the Loggerhead."

The Gray Shrike seems to bob its tail more frequently and energetically than does the Loggerhead, and sometimes it indulges in startling behavior unlike any reported, to my knowledge, for the Loggerhead. Trautman writes about a singing male Gray Shrike observed on South Bass Island, Ohio, February 23, 1955:

> When I first saw the shrike it was perched in the top of a small tree, about 25 feet from the ground, from which perch it sang persistently for over five minutes, after which I left it. Returning later I found the bird near where I had first seen it. Approaching closer I saw the bird doing an amazing thing. It was in the top of a wide branching tree, hopping rapidly from one branch to another, then quickly changing direction and hopping to another branch. It seemed to do a lot of unnecessary bobbing and turning. As it hopped about it sang its lovely phrases, sometimes alternating with cat-calls. I have never seen a similar behavior in any other bird.

I observed nearly identical actions in an immature Gray Shrike near Mt. Clemens, Michigan, on January 31, 1954. The latter bird preceded his antics (performed in the top of a 40-foot elm) with 10 or 12 high-pitched, squealing, sapsucker-like notes.

Near Imlay City, Michigan, December 5, 1954, I watched a subadult Gray Shrike fly from its perch on a roadside wire to a tree near a chicken yard where numerous House Sparrows *(Passer domesticus)* were noisily feeding on the ground. Apparently attempting to startle the sparrows into flight, the shrike began excitedly jumping about—from branch to branch, from the tree to an adjacent wire fence or to low telephone wires and back to the tree again—all the while flopping its tail and repeatedly spreading its tail and wings. As I followed the rapid action (with difficulty) through the telescope I was continually reminded of a Mockingbird's *(Mimus polyglottos)* "wing-flashing." After nearly a full minute of this behavior one sparrow flew upward across the open farmyard, with the shrike following. The sparrow managed to keep above its pursuer and at a point several hundred feet above ground, where both birds appeared as mere specks, the shrike gave up the chase.

In the same region, on March 28, 1954, I watched an adult Gray Shrike perched on a diagonal support cable leading from a tall roadside utility pole

to the ground. Fluttering its wings like a young bird about to be fed, the shrike slowly moved sideways down the cable until within a few feet of the ground, uttering high *p'seet* notes which I could barely distinguish from those

FIG. 4. Gray Shrike (? female), Arcadia Township, Lapeer County, Michigan, December 17, 1953. Note the interrupted mask and the extent of the light area on the lower mandible. Photograph by L. M. and L. P. Zimmerman.

of several Horned Larks *(Eremophila alpestris)* that were calling from the adjacent field. A few minutes later it flew to the high wires above and began preening. It was heedless of my presence and remained within 15 feet of the road while two or three automobiles roared past.

Miller (*op. cit.*:144) writes: "Apparently *L. excubitor* is less fixed in its winter habitat than *L. ludovicianus*, for it seems to wander about in response to varying local conditions of food and weather." However, both species seem to inhabit definite territories in winter. Several times from December, 1953, through March, 1954, my family and I observed what we believed to be the same Gray Shrikes in certain localities in Lapeer County, Michigan. Although these individuals had favorite hunting perches their territories were large, thus making it difficult to find a particular bird on a given day.

Mrs. Alice D. Miller banded an adult, male-plumaged Gray Shrike at her Leonard, Michigan, station on November 3, 1954, and retrapped the same bird there February 3, 1955. An adult that I banded November 29, 1953, in Lapeer County, was possibly the same banded individual I saw 300 yards south of the banding station on March 21, 1954.

Trautman observed some Ohio Gray Shrikes that seemed to hunt over great circular routes. He "followed one for a distance of 2½ miles during a ½ hour period and it still had not completed its circle." The Loggerhead, according to that observer, is "quite sedentary in winter and the same bird can be seen day after day about its [osage orange] hedge."

Trautman informs me that the Gray Shrike "apparently cannot compete with" the Sparrow Hawk; that when a Gray Shrike enters the winter territory of a Sparrow Hawk it is driven out, and when the falcon enters a Gray Shrike's territory the shrike immediately leaves. His observations indicate that there is no such competition between Sparrow Hawks and Loggerhead Shrikes; he has seen those two species sharing the same hunting territory.

Miller (*op. cit.*:213) stated that "there appear to be more records of *L. excubitor* carrying food in the feet than there are of *L. ludovicianus*." In his extensive field work with western races of the Loggerhead Shrike he never saw a bird carry food in its feet (though he pointed out that the action did occur at least rarely in that species). I have several times seen Gray Shrikes carrying birds or mice for distances of 100 feet to a quarter of a mile; in every case prey was carried in the feet. I have never seen the Loggerhead attempt to carry vertebrate prey. Floyd (1928:46) summarized reports by 23 eastern observers which show that the Gray Shrike may use either its bill or feet in this connection: 13 observers reported the use of bill only, seven observed the use of feet only, and three noted the use of both.

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